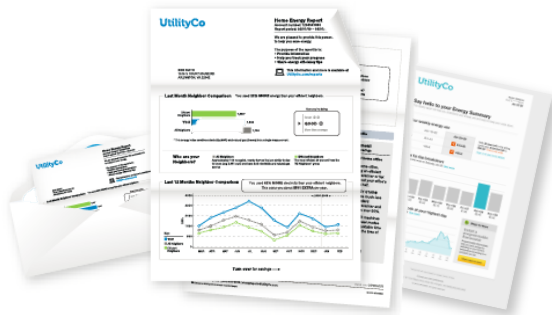# Opower Delivers Reliable Energy and Load Savings

November 2012

- Jim Kapsis: Sr. Director – Market Development & Policy Strategy
- Jim Campbell: Director – Client Solutions

Overview of Opower

Behavior Change through Customer Engagement

Home Energy Reporting

AMI Web, mobile and alerts

CSR Tools

Social energy application

Energy data – driven marketing

Intelligent Thermostat

Overview of Opower

6 countries, 75 utility partners, 15 million households

Overview of Opower
Opower 3-year, Texas deployment potential

Program

6.8 million Residential customers engaged

>1.0 on the UCT Cost-benefit score

Impact*

3.85 TWh in energy savings

356 MW in demand savings
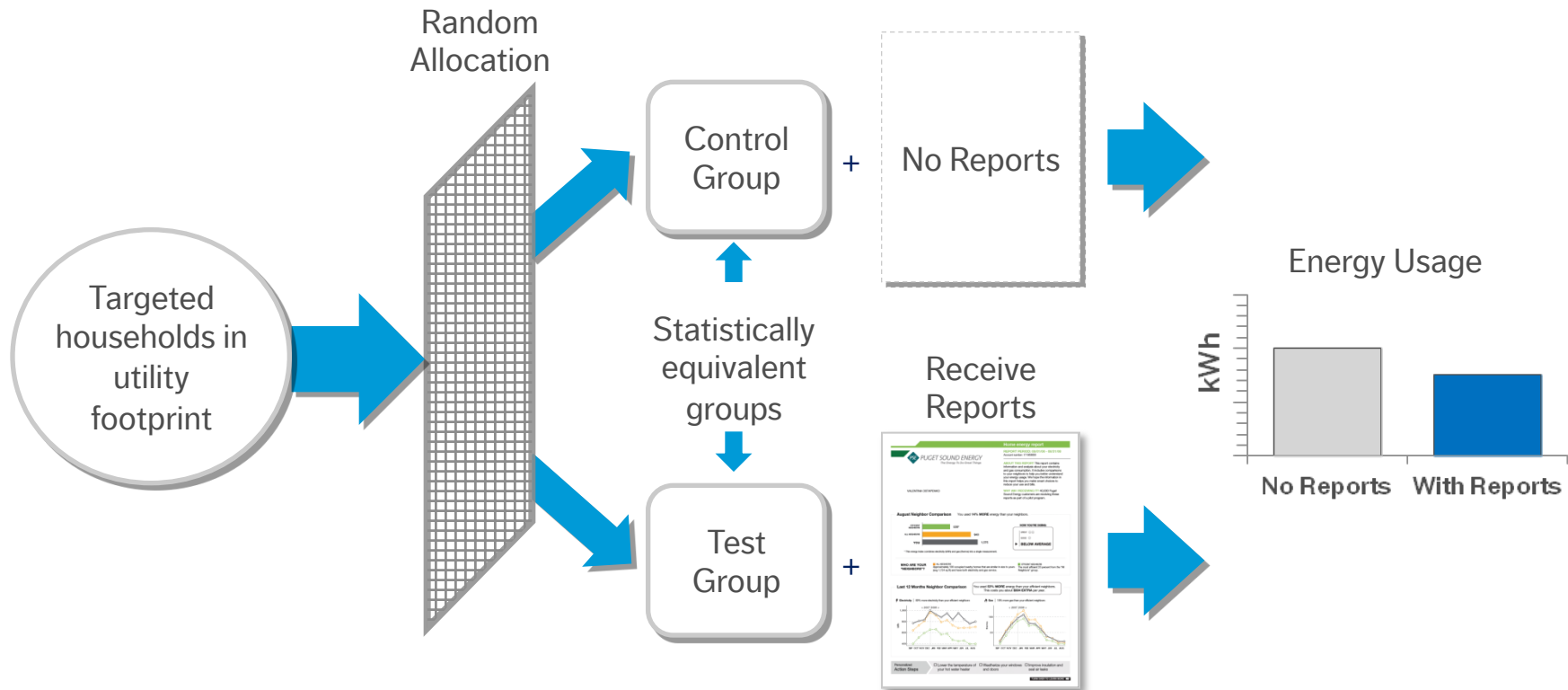
$385 million in bill savings

113,000 households off the grid

- Note: Estimated from a forecast that includes results from over 70 other Opower deployments and publicly available data specific to Texas

M&V Plan
Opt-out randomized controlled trials

Methodology endorsed by:

U.S. DEPARTMENT OF **ENERGY** · EPRI | ELECTRIC POWER RESEARCH INSTITUTE · NRDC · UNITED STATES ENVIRONMENTAL PROTECTION AGENCY · neep

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IPMVP Option
Meets Option C, best practice standards

	Standard	✔
	TX EE Rule "through bill analyses it can be determined that the customer's overall usage has declined."	✔
	IPMVP Option C "Option C: Whole Facility, involves use of utility meters…to assess the energy performance of a total facility."	✔
	DOE NAPEE Guidelines "Large-scale data analysis applies a variety of statistical methods…to estimate gross energy and demand impacts."	✔
	DOE SEE Action "We recommend using a randomized controlled trial for behavior-based efficiency programs…"	✔

Summary of Results
Results independently verified and accepted

2%   average savings rate for independently verified programs

3 years of persistent savings that have been independently verified

19   states in which Opower is accepted as an efficiency resource

20 independent evaluations of Opower programs

1,800,000   participants whose savings have been verified

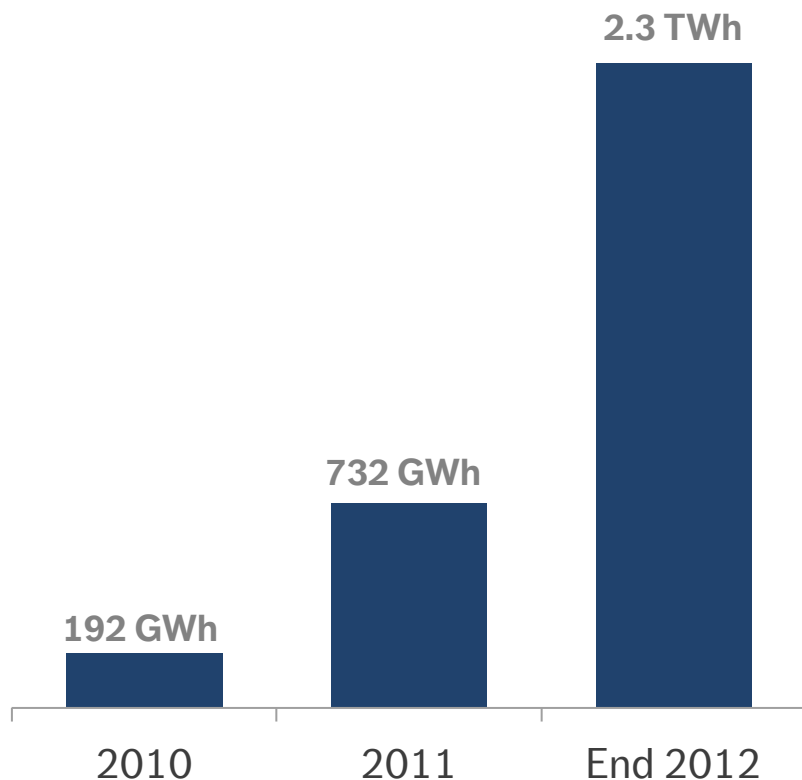**25,000,000**   meter reads evaluated to calculate these savings

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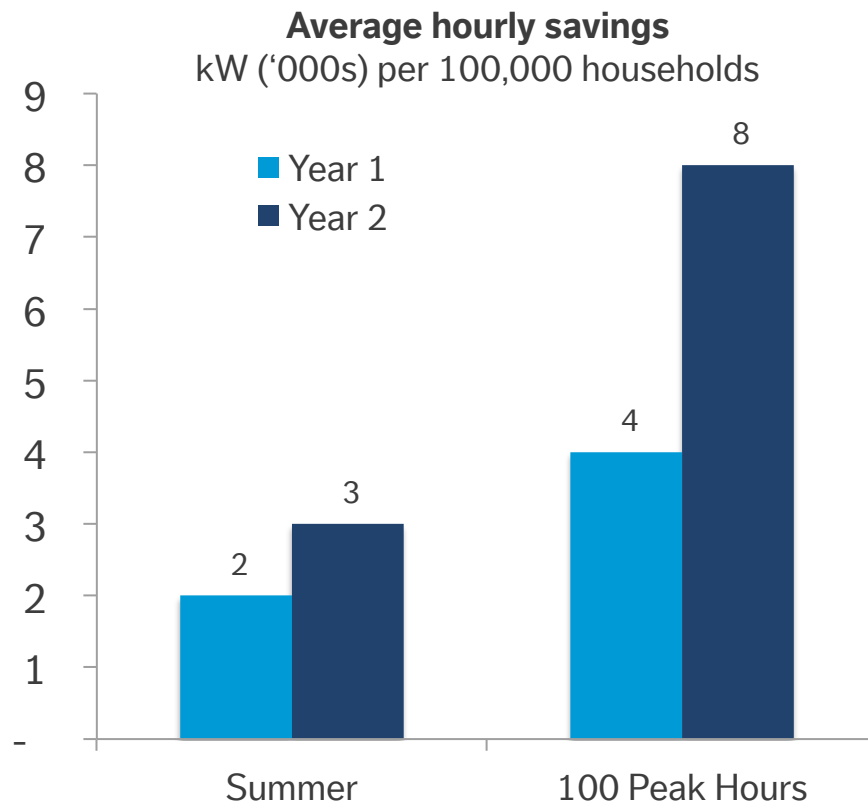**Independently verified by leading industry consultants, academics**

KEMA   NYU   MIT Massachusetts Institute of Technology   HARVARD   NAVIGANT CONSULTING   YALE   BERKELEY LAB

Summary of Results
Savings at scale and during peak hours

Total savings across all deployments

2.3 TWh

732 GWh

192 GWh

| 2010 | 2011 | End 2012 |

Sample peak reductions*

Average hourly savings
kW ('000s) per 100,000 households

- ■ Year 1
- ■ Year 2

Summer: 2, 3
100 Peak Hours: 4, 8

- Results from an AMI program with a Northeast utility. Summer includes June-August, 2-5pm weekdays.
- 100 peak hours includes only highest peak load hours in the summer period.

Applicability
Opower is a market transformation program

| Standard	
Definition of Energy Efficiency in EE Rule "Improvements in the use of electricity that are achieved through… behavioral or operational changes…"	✔
Definition of Market Transformation Program in EE Rule "Strategic programs intended to induce lasting structural or behavioral changes in the market…"	✔
P.U.C. Staff Recommendation for EE Rule Amendments "[T]he commission agrees with Opower that behavioral program service providers may receive incentives on an incremental basis."	✔
Data privacy guidelines Opower meets P.U.C. privacy guidelines, has implemented leading SOC-2 procedures, and follows NIST SP 800-53 and NISTIR 7628	✔

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Market

Opower can partner with IOUs, REPs, and TDUs to deliver savings to households

Scenario 1: Regulated market
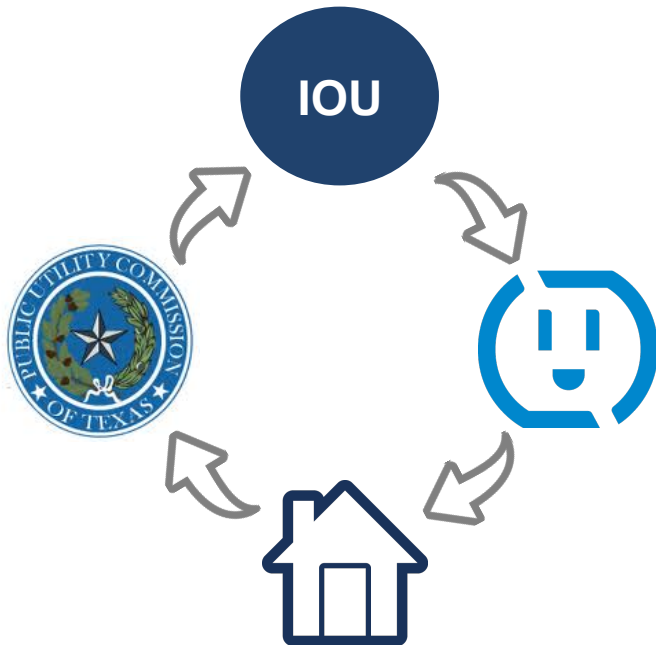
Scenario 2: Retail market
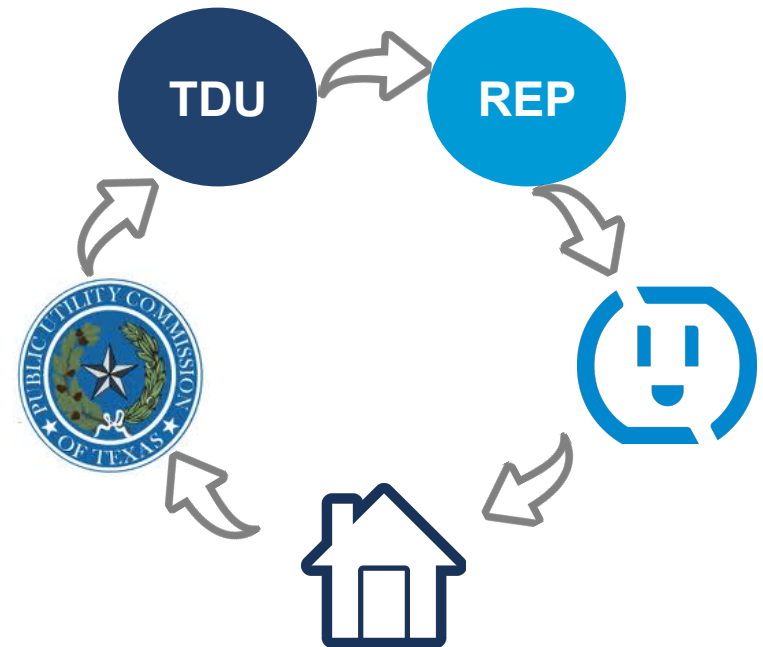
Conclusions

» Opower provides proven behavioral efficiency solutions that can work in the Texas market

» Opower delivers consistent & measurable savings that have been independently verified

» Opower uses a measurement and verification methodology that is consistent with IPMVP and national best practices

Next Steps

» Answer EEIP questions

» Engage IOUs, TDUs and REPs

» Obtain sponsoring electric utility

Appendix

Opower Overview

Engaging consumers,
Saving energy and money

Company

- **75+** utility partners in **30** states, UK, Australia, New Zealand, Canada

- Forbes **#10** of 100 **Most Promising Companies**

- **~275** people in Washington, D.C, San Francisco and London

Our DNA

- Applied behavioral science

- Consumer marketing

- Data analytics

Sample of Opower independent evaluations

Evaluator*	Utility	Results
Opinion Dynamics & Navigant	NSTAR & National Grid (MA)	1.25 – 2.06%
Navigant Consulting	ComEd (IL)	1.55 – 2.02%
KEMA	Puget Sound Energy (WA)	1.3% & 2.6%
Hunt Allcott, MIT	17 deployments	1.4 – 3.3%
Opinion Dynamics & Navigant	National Grid (MA)	1.61%
EDF	11 deployments	0.9 – 2.9%
Navigant Consulting	SMUD (CA)	1.3 – 2.9%
KEMA	Puget Sound Energy (WA)	1.26 & 1.84%
LBNL (meta-analysis)	Puget Sound Energy (WA)	1.26 & 1.84%
Power System Engineering	Connexus (MN)	2.05 – 2.10%
Power System Engineering	Lake Country Power (MN)	2.73 – 2.81%
Hunt Allcott, MIT	N/A	2.70%
Hunt Allcott, MIT	Connexus (MN)	2.3 – 2.4%
Ian Ayres, Yale	SMUD (CA) & Puget Sound Energy (WA)	2.1% & 1.2%
Summit Blue (d/b/a Navigant)	SMUD (CA)	2.13 – 2.24%

* In reverse chronological order based on time of publication

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Delivering real benefit to Low Income populations, at scale

Opower Impact on Select Low Income Programs

	% Savings	Annual kWh Saved/hh	Annual $ Saved/hh	Number of Households	Program Maturity
Western Utility	1.4%	63	$7.51	47,639	9 mo.
Western Utility	2.1%	183	$22.01	2,579	14 mo.
Eastern Utility	1.3%	235	$28.25	6,828	14 mo.
Southwest Utility	1.3%	173	$20.77	9,911	16 mo.
Midwest Utility	1.0%	151	$18.12	16,085	24 mo.

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and is effective for everyone, including senior citizens

Savings by Age
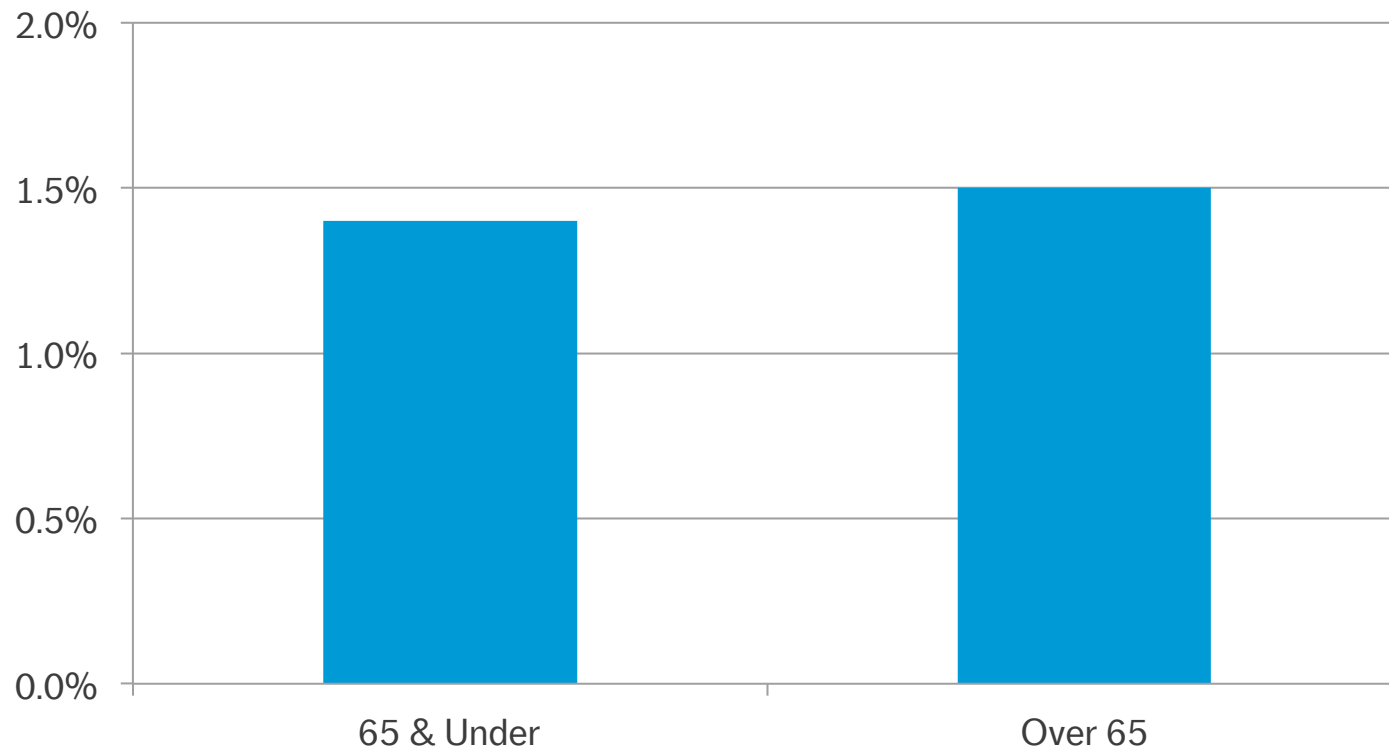
Source: Analysis of 10 different US programs, representing 95K homes with primary resident >65yrs

Opower increases participation in hard measures

Participation lift
Programs Promoted in Reports

Program % Lift

Average 75%
Median 60%

- Home Audit - South Central Utility: 29%
- Appliance Recycling - Midwest Utility: 45%
- Home Audit – Northeast Utility: 60%
- Home Audit - South Central Utility: 72%
- Home Audit - South Central Utility: 169%